



Attorney Docket No: 042390.P16681

Patent

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:
Valery M. Dubin, et al.

Application No.: 10/695,249

Filing Date: October 27, 2003

For: A Method for Making a Semiconductor Device
Having Increased Conductive Material Reliability

Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Examiner: Unknown

Art Unit: Unknown

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Date of Deposit

Debra L. Milbourne

Name of Person Mailing Correspondence

Debra L. Milbourne

Signature

Date

REVOCATION OF POWER OF ATTORNEY AND CHANGE OF CORRESPONDENCE ADDRESS

The assignee, Intel Corporation, of the above-identified Patent Application, hereby revokes all previous powers of attorney given in this Patent Application, and appoints the firm identified below and individual.

Intel Corporation, a corporation, certifies that it is the assignee of the entire right, title and interest in the patent application identified above by virtue of an Assignment from the inventor(s) of the patent application identified above. The Assignment was recorded in the Patent and Trademark Office at Reel____Frame____, or when the Assignment has not yet been recorded, a copy thereof is attached.

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN, a firm including: Ramin Aghevli, Reg. No. 43,462; William E. Alford, Reg. No. 37,764; Farzad E. Amini, Reg. No. 42,261; W. Thomas Babbitt, Reg. No. 39,591; Jordan M. Becker, Reg. No. 39,602; Michael A. Bernadidou, Reg. No. 35,934; Roger W. Blakely, Jr., Reg. No. 25,831; R. Alan Burnett, Reg. No. 46,149; Gregory D. Caldwell, Reg. No. 39,926; Thomas M. Coester, Reg. No. 39,637; Mimi D. Dao, Reg. No. 45,628; Stephen M. De Klerk, Reg. No. 46,503; Daniel M. De Vos, Reg. No. 37,813; Sanjeet Dutta, Reg. No. 46,145; Tarek N. Fahmi, Reg. No. 41,402; Thomas S. Ferrill, Reg. No. 42,532; Angelo J. Gaz, Reg. No. 45,907; Andre M. Gibbs, Reg. No. 47,593; James Y. Go, Reg. No. 40,621; J. Scott Heilesen, Reg. No. 46,765; James A. Henry, Reg. No. 41,064; Willmore F. Holbrow III, Reg. No. 41,845; Sheryl Sue Holloway, Reg. No. 37,850; George W. Hoover II, Reg. No. 32,992; Eric S. Hyman, Reg. No. 30,139; Walter T. Kim, Reg. No. 42,731; Eric T. King, Reg. No. 44,188; Steve Laut, Reg. No. 47,736; Suk S. Lee, Reg. No. 47,745; Gordon R. Lindeen III, Reg. No. 33,192; Jan C. Little, Reg. No. 41,181; Joseph Lutz, Reg. No. 43,765; Michael J. Mallie, Reg. No. 36,591; Andre L. Marais, Reg. No. 48,095; Raul D. Martinez, Reg. No. 46,904; Paul A. Mendonsa, Reg. No. 42,879; Jonathan S. Miller, Reg. No. 48,534; Heather M. Molleur, Reg. No. 50,432; Richard A. Nakashima, Reg. No. 42,023; Thinh V. Nguyen, Reg. No. 42,034; Robert B. O'Rourke, Reg. No. 46,972; Daniel E. Ovanezian, Reg. No. 41,236; Philip A. Pedigo, Reg. No. P-52,107; Marina Portnova, Reg. No. 45,750; James H. Salter, Reg. No. 35,668; William W. Schaal, Reg. No. 39,018; James C. Scheller, Reg. No. 31,195; Kevin G. Shao, Reg. No. 45,095; Stanley W. Sokoloff, Reg. No. 25,128; Judith A. Szepesi, Reg. No. 39,393; Edwin H. Taylor, Reg. No. 25,129; Lisa Tom, Reg. No. P-52,291; Kerry D. Tweet, Reg. No. 45,959; Mark C. Van Ness, Reg. No. 39,865; Thomas A. Van Zandt, Reg. No. 43,219; Lester J. Vincent, Reg. No. 31,460; John P. Ward, Reg. No. 40,216; Mark L. Watson, Reg. No. 46,322; Thomas C. Webster, Reg. No. 46,154; C. Teresa Wong, Reg. No. 48,042; and Norman Zafman, Reg. No. 26,250; my patent attorneys, and Brent E. Vecchia, Reg. No. 48,011, and Lehua Wang, Reg. No. 48,023; my patent agents, of

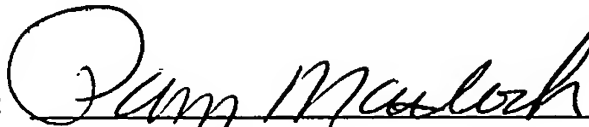
BLAKELY SOKOLOFF TAYLOR & ZAFMAN LLP, with offices located at 12400 Wilshire Boulevard, 7th Floor, Los Angeles, California 90025, telephone (310) 207-3800, and Alan K. Aldous, Reg. No. 31,905; Rob D. Anderson, Reg. No. 33,826; Shireen I. Bacon, Reg. No. 40,494; Michael Barre, Reg. No. 44,023; Jay P. Beale, Reg. No. 50,901; R. Edward Brake, Reg. No. 37,784; Ben Burge, Reg. No. 42,372; George Chen, Reg. No. 50,807; Glen B. Choi, Reg. No. 43,546; Kenneth Cool, Reg. No. 40,570; Ted A. Crawford, Reg. No. 50,610; Robert Diehl, Reg. No. 40,992; Jeffrey S. Draeger, Reg. No. 41,000; Cynthia Thomas Faatz, Reg. No. 39,973; Christopher Gagne, Reg. No. 36,142; Sharmini N. Green, Reg. No. 41,410; Robert Greenberg, Reg. No. 44,133; Bradley Greenwald, Reg. No. 34,341; Libby Hope, Reg. No. 46,774; Jeffrey B. Huter, Reg. No. 41,086; Seth Z. Kalson, Reg. No. 40,670; Peter Lam, Reg. No. 44,855; Issac Lin, Reg. No. 50,672; Anthony Martinez, Reg. No. 44,223; Molly McCall, Reg. No. 46,126; Larry Mennemeier, Reg. No. 51,003; Paul Nagy, Reg. No. 37,896; Michael J. Nesheiwat, Reg. No. 47,819; Dennis A. Nicholls, Reg. No. 42,036; Lanny Parker, Reg. No. 44,281; Alan Pedersen-Giles, Reg. No. 39,996; Michael D. Plimier, Reg. No. 43,004; Michael Proksch, Reg. No. 43,021; Kevin A. Reif, Reg. No. 36,381; Crystal D. Sayles, Reg. No. 44,318; Russell Scott, Reg. No. 43,103; Kenneth M. Seddon, Reg. No. 43,105; Mark Seeley, Reg. No. 32,299; Ami P. Shah, Reg. No. 42,143; David Simon, Reg. No. 32,756; Steven P. Skabrat, Reg. No. 36,279; Paul E. Steiner, Reg. No. 41,326; Joni D. Stutman-Horn, Reg. No. 42,173; David Tran, Reg. No. 50,804; John F. Travis, Reg. No. 43,203; Kerry Tweet, Reg. No. 45,959; Calvin E. Wells, Reg. No. 43,256; Stuart Whittington, Reg. No. 45,215; Michael Willardson, Reg. No. 50,856; Robert Winkle, Reg. No. 37,474; Rita Wisor, Reg. No. 41,382; Sharon Wong, Reg. No. 37,760; and Steven D. Yates, Reg. No. 42,242; my patent attorneys, and my patent agents, of INTEL CORPORATION, with offices located at 2200 Mission College Blvd., Santa Clara, CA 95052, telephone (408)765-8080; and James R. Thein, Reg. No. 31,710, John F. Kacvinsky, Reg. No. 40,040, my patent attorneys; with full power of substitution and revocation, to prosecute this application and to transact all business in the Patent and Trademark Office connected herewith.

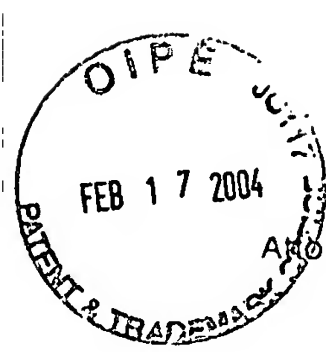
The individual whose signature appears below is authorized to execute this Power of Attorney on behalf of Intel Corporation.

Please direct all communications concerning this Application to:

Michael A. Bernadicou
BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP
12400 Wilshire Boulevard, Seventh Floor
Los Angeles, CA 90025
(408) 720-8300

Date: February 11, 2004

By: 
Pam Matlock
Secretary of Patents
Intel Corporation



Attorney's Docket No.: 111079-135225

PATENT

DECLARATION AND POWER OF ATTORNEY FOR PATENT APPLICATION

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below, next to my name.

I believe I am the original, first, and sole inventor (if only one name is listed below) or an original, first, and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

A METHOD FOR MAKING A SEMICONDUCTOR DEVICE HAVING INCREASED CONDUCTIVE MATERIAL RELIABILITY

the specification of which

 X is attached hereto.
 was filed on (MM/DD/YYYY) _____ as
United States Application Number _____
or PCT International Application Number _____
and was amended on (MM/DD/YYYY) _____
(if applicable)

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claim(s), as amended by any amendment referred to above. I do not know and do not believe that the claimed invention was ever known or used in the United States of America before my invention thereof, or patented or described in any printed publication in any country before my invention thereof or more than one year prior to this application. I do not know and do not believe that the claimed invention was in public use or on sale in the United States of America more than one year prior to this application, nor do I know or believe that the invention has been patented or made the subject of an inventor's certificate issued before the date of this application in any country foreign to the United States of America on an application filed by me or my legal representatives or assigns more than twelve months (for a utility patent application) or six months (for a design patent application) prior to this application.

I acknowledge the duty to disclose all information known to me to be material to patentability as defined in Title 37, Code of Federal Regulations, Section 1.56.

I hereby claim foreign priority benefits under Title 35, United States Code, Section 119(a)-(d), of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

<u>Prior Foreign Application(s)</u>			<u>Priority Claimed</u>	
<u>(Number)</u>	<u>(Country)</u>	<u>(Foreign Filing Date - MM/DD/YYYY)</u>	<u>Yes</u>	<u>No</u>
<u>(Number)</u>	<u>(Country)</u>	<u>(Foreign Filing Date - MM/DD/YYYY)</u>	<u>Yes</u>	<u>No</u>
<u>(Number)</u>	<u>(Country)</u>	<u>(Foreign Filing Date - MM/DD/YYYY)</u>	<u>Yes</u>	<u>No</u>

I hereby claim the benefit under Title 35, United States Code, Section 119(e) of any United States provisional application(s) listed below:

<u>Application Number</u>	<u>(Filing Date – MM/DD/YYYY)</u>
<u>Application Number</u>	<u>(Filing Date – MM/DD/YYYY)</u>

I hereby claim the benefit under Title 35, United States Code, Section 120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, Section 112, I acknowledge the duty to disclose all information known to me to be material to patentability as defined in Title 37, Code of Federal Regulations, Section 1.56 which became available between the filing date of the prior application and the national or PCT international filing date of this application:


<u>Application Number</u>	<u>(Filing Date – MM/DD/YYYY)</u>	<u>Status -- patented, pending, abandoned</u>
<u>Application Number</u>	<u>(Filing Date – MM/DD/YYYY)</u>	<u>Status -- patented, pending, abandoned</u>

I hereby appoint the persons listed on Appendix A hereto (which is incorporated by reference and a part of this document) as my respective patent attorneys and patent agents, with full power of substitution and revocation, to prosecute this application and to transact all business in the Patent and Trademark Office connected herewith.

Please direct all correspondence to customer number 000025943.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.


Full Name of Sole/First Inventor Valery M. Dubin

Inventor's Signature  Date 10/23/2003

Residence Portland, OR Citizenship USA
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Post Office Address 5388 NW Lianna Way

Full Name of Joint/Second Inventor Ramanan V. Chebiam

Inventor's Signature  Date 23 Oct 03

Residence Hillsboro, OR Citizenship India
(City, State) (Country)

Post Office Address 19000 NW Evergreen Pkwy, #5

APPENDIX A

The Practitioners at customer number 000025943; and Alan K. Aldous, Reg. No. 31,905; Shireen I. Bacon, Reg. No. 40,494; R. Edward Brake, Reg. No. 37,784; Ben Burge, Reg. No. 42,372; Robert A. Burtzlaff, Reg. No. 35,466; George Chen, Reg. No. 50,807; Glen B. Choi, Reg. No. 43,546; Kenneth Cool, Reg. No. 40,570; Jeffrey S. Draeger, Reg. No. 41,000; Cynthia Thomas Faatz, Reg. No. 39,973; Christopher Gagne, Reg. No. 36,142; Sharmini N. Green, Reg. No. 41,410; Robert Greenberg, Reg. No. 44,133; Bradley Greenwald, Reg. No. 34,341; Jeffrey B. Huter, Reg. No. 41,086; John Kacvinsky, Reg. No. 40,040; Seth Z. Kalson, Reg. No. 40,670; Peter Lam, Reg. No. 44,855; Issac Lin, Reg. No. 50,672; David C. Lundmark, Reg. No. 42,815; Anthony Martinez, Reg. No. 44,223; Larry Mennemeier, Reg. No. 51,003; Paul Nagy, Reg. No. 37,896; Dennis A. Nicholls, Reg. No. 42,036; Leo V. Novakoski, Reg. No. 37,198; Lanny Parker, Reg. No. 44,281; Michael Proksch, Reg. No. 43,021; Kevin A. Reif, Reg. No. 36,381; Crystal D. Sayles, Reg. No. 44,318; Kenneth M. Seddon, Reg. No. 43,105; Mark Seeley, Reg. No. 32,299; David Simon, Reg. No. 32,756; Steven P. Skabrat, Reg. No. 36,279; Howard A. Skaist, Reg. No. 36,008; Paul E. Steiner, Reg. No. 41,326; David Tran, Reg. No. 50,804; Robert G. Winkle, Reg. No. 37,474; Sharon Wong, Reg. No. 37,760; Steven D. Yates, Reg. No. 42,242; Calvin E. Wells, Reg. No. 43,256; Michael Willardson, Reg. No. 50,856 and Charles K. Young, Reg. No. 39,435; my patent attorneys, and my patent agents, of INTEL CORPORATION, with offices located at 2200 Mission College Blvd., Santa Clara, CA 95052, telephone (408)765-8080; with full power of substitution and revocation, to prosecute this application and to transact all business in the Patent and Trademark Office connected herewith.

APPENDIX B

Title 37, Code of Federal Regulations, Section 1.56 Duty to Disclose Information Material to Patentability

(a) A patent by its very nature is affected with a public interest. The public interest is best served, and the most effective patent examination occurs when, at the time an application is being examined, the Office is aware of and evaluates the teachings of all information material to patentability. Each individual associated with the filing and prosecution of a patent application has a duty of candor and good faith in dealing with the Office, which includes a duty to disclose to the Office all information known to that individual to be material to patentability as defined in this section. The duty to disclose information exists with respect to each pending claim until the claim is cancelled or withdrawn from consideration, or the application becomes abandoned. Information material to the patentability of a claim that is cancelled or withdrawn from consideration need not be submitted if the information is not material to the patentability of any claim remaining under consideration in the application. There is no duty to submit information which is not material to the patentability of any existing claim. The duty to disclose all information known to be material to patentability is deemed to be satisfied if all information known to be material to patentability of any claim issued in a patent was cited by the Office or submitted to the Office in the manner prescribed by §§ 1.97(b)-(d) and 1.98. However, no patent will be granted on an application in connection with which fraud on the Office was practiced or attempted or the duty of disclosure was violated through bad faith or intentional misconduct. The Office encourages applicants to carefully examine:

(1) Prior art cited in search reports of a foreign patent office in a counterpart application, and

(2) The closest information over which individuals associated with the filing or prosecution of a patent application believe any pending claim patentably defines, to make sure that any material information contained therein is disclosed to the Office.

(b) Under this section, information is material to patentability when it is not cumulative to information already of record or being made of record in the application, and

(1) It establishes, by itself or in combination with other information, a prima facie case of unpatentability of a claim; or

(2) It refutes, or is inconsistent with, a position the applicant takes in:

(i) Opposing an argument of unpatentability relied on by the Office, or

(ii) Asserting an argument of patentability.

A prima facie case of unpatentability is established when the information compels a conclusion that a claim is unpatentable under the preponderance of evidence, burden-of-proof standard, giving each term in the claim its broadest reasonable construction consistent with the specification, and before any consideration is given to evidence which may be submitted in an attempt to establish a contrary conclusion of patentability.

(c) Individuals associated with the filing or prosecution of a patent application within the meaning of this section are:

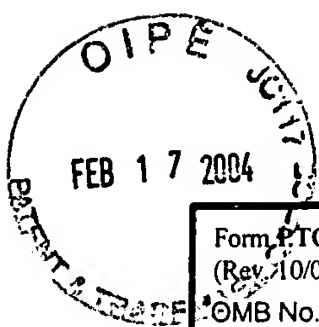
(1) Each inventor named in the application;

(2) Each attorney or agent who prepares or prosecutes the application; and

(3) Every other person who is substantively involved in the preparation or prosecution of the application and who is associated with the inventor, with the assignee or with anyone to whom there is an obligation to assign the application.

(d) Individuals other than the attorney, agent or inventor may comply with this section by disclosing information to the attorney, agent, or inventor.

(e) In any continuation-in-part application, the duty under this section includes the duty to disclose to the Office all information known to the person to be material to patentability, as defined in paragraph (b) of this section, which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application.



Form PTO-1595
(Rev. 10/02)

RECORDATION FORM COVER SHEET
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U.S. Patent and Trademark Office

OMB No. 0651-0027 (exp. 6/30/2005)

Tab settings ⇌ ⇌ ⇌ ▼ ▼ ▼ ▼ ▼ ▼

To the Honorable Commissioner of Patents and Trademarks: Please record the attached original documents or copy thereof.

1. Name of conveying party(ies):

Valery M. Dubin
Ramanan V. Chebiam

2. Name and address of receiving party(ies)

Name: Intel Corporation

Internal Address: _____

Additional name(s) of conveying party(ies) attached? ☐ Yes ☒ No

3. Nature of conveyance:

- ☒ Assignment ☐ Merger
☐ Security Agreement ☐ Change of Name
☐ Other _____

Execution Date: 10/23/03

Street Address: 2200 Mission College Blvd

City: Santa Clara State: CA Zip: 95052

Additional name(s) & address(es) attached? ☐ Yes ☒ No

4. Application number(s) or patent number(s):

If this document is being filed together with a new application, the execution date of the application is: 10/23/03

A. Patent Application No.(s) _____

B. Patent No.(s) _____

Additional numbers attached? ☐ Yes ☒ No

5. Name and address of party to whom correspondence concerning document should be mailed:

Name: Christopher J. Lewis

Internal Address: Schwabe Williamson & Wyatt
Suite 1900

Street Address: 1211 SW Fifth Avenue

City: Portland State: OR Zip: 97204

6. Total number of applications and patents involved: 1

7. Total fee (37 CFR 3.41).....\$ 40.00

- ☒ Enclosed
☐ Authorized to be charged to deposit account

8. Deposit account number:

500393

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9. Signature.

Christopher J. Lewis, Reg No. 51,246

Name of Person Signing


Signature

October 27, 2003

Date

Total number of pages including cover sheet, attachments, and documents: 3

Mail documents to be recorded with required cover sheet information to:
Commissioner of Patents & Trademarks, Box Assignments
Washington, D.C. 20231

Attorney's Docket

No.: 111079-135225

ASSIGNMENT

PATENT

In consideration of good and valuable consideration, the receipt of which is hereby acknowledged, the undersigned, Valery M. Dubin and Ramanan V. Chebiam

hereby sell, assign, and transfer to Intel Corporation

a corporation of Delaware, having a principal place of business at


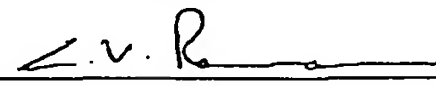
2200 Mission College Blvd., Santa Clara, California 95052, ("Assignee"), and its successors, assigns, and legal representatives, the entire right, title, and interest for the United States and all foreign countries, in and to any and all improvements that are disclosed in the application for the United States patent that has been executed by the undersigned prior hereto or concurrently herewith on the dates indicated below and is entitled A METHOD FOR MAKING A SEMICONDUCTOR DEVICE HAVING INCREASED CONDUCTIVE MATERIAL RELIABILITY,

and in and to said application and all divisional applications, continuation applications, continued prosecution applications, continuation-in-part applications, substitute applications, renewal applications, reissue applications, reexaminations, extensions, and all other patent applications that have been or shall be filed in the United States and all foreign countries on any of said improvements; and in and to all original patents, reissued patents, reexamination certificates, and extensions, that have been or shall be issued in the United States and all foreign countries on said improvements; and in and to all rights of priority resulting from the filing of said United States application;

agree that said Assignee may apply for and receive a patent or patents for said improvements in its own name; and that, when requested, without charge to, but at the expense of, said Assignee, its successors, assigns, and legal representatives, to carry out in good faith the intent and purpose of this Assignment, the undersigned will execute all divisional applications, continuation applications, continued prosecution applications, continuation-in-part applications, substitute applications, renewal applications, reissue applications, reexaminations, extensions and all other patent applications on any and all said improvements; execute all rightful oaths, assignments, powers of attorney, and other papers; communicate to said Assignee, its successors, assigns, and representatives all facts known to the undersigned relating to said improvements and the history thereof; and generally assist said Assignee, its successors, assigns, or representatives in securing and maintaining proper patent protection for said improvements and for vesting title to said improvements, and all applications for patents and all patents on said improvements, in said Assignee, its successors, assigns, and legal representatives; and

covenant with said Assignee, its successors, assigns, and legal representatives that no assignment, grant, mortgage, license, or other agreement affecting the rights and property herein conveyed has been made to others by the undersigned, and that full right to convey the same as herein expressed is possessed by the undersigned.

Each Inventor: Please Sign and Date Below:

10/23, 2003
Date

Name: Valery M. Dubin
23 Oct, 2003
Date

Name: Ramanan V. Chebiam

Each Inventor: Please
also list the date that
you signed the
accompanying
DECLARATION AND
POWER OF
ATTORNEY:

10/23, 2003
Date
23 Oct, 2003
Date